

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently amended) A connector, comprising:
conductors; and
a housing ~~containing~~ substantially enclosing the conductors ~~configured with and~~
including an opening on a first at least one side other than the front connecting face, and an
opening on an opposite second side that together form a passageway extending completely
through the connector from the first side to the second side for promoting air flow across the
conductors ~~in~~ and through the housing.
2. (Currently amended) A connector according to claim 1 including fins coupled to
the conductors and extending out of at least one of the housing opening openings.
3. (Currently amended) A connector according to claim 1 including openings on
opposite sides of the housing for passing air through a first one of the openings, over the
conductors in parallel planar passageways, and out a second one of the openings.
4. (Currently amended) A connector according to claim 1 including an air flow
control device configured to direct air into one of the housing opening openings.
5. (Currently amended) A connector according to claim 4 wherein the air flow
control device includes an air intake vent configured to direct air from underneath a circuit
board up through ~~circuit board~~ electrically connected to a circuit board and into one of
the housing ~~opening openings~~.

6. (Currently amended) A connector according to claim ~~4~~ 5 including ~~an exhaust vent that directs air out of the air flow control device~~ conductor pins that are inserted in the vias.

7. (Currently amended) A connector according to claim 4 wherein the air flow control device includes ~~a shroud covering the connector~~ an air intake vent located below the housing.

8. (Currently amended) A connector according to claim 7 including an exhaust vent configured to vent air ~~out of the shroud~~ in a direction offset and substantially parallel to the air directed towards the intake vent.

9. (Currently amended) A connector according to claim 4 including vias electrically connected to a power plane on a printed circuit board, the vias located inside the air flow control device for directing air from underneath the circuit board up through the vias and across the conductors in the connector.

10. (Currently amended) A heat removal system, comprising:
a circuit board connector having electrical contacts for inserting into mounting holes electrically connected to a circuit board; and

a device configured to attached over a the circuit board power connector for directing air from underneath the circuit board up through the mounting holes, through the connector and out ~~and including~~ an output vent for directing heat away from the power connector.

11. (Currently amended) A heat removal system according to claim 10 including an air intake vent located on an underside of the printed circuit board for directing air up through the mounting holes in the printed circuit board and into the device.

12. (Currently amended) A heat removal system ~~according to claim 11 including,~~
comprising:

a device configured to attach over a circuit board power connector and including an output vent for directing heat away from the power connector;

an air intake vent located on an underside of the printed circuit board for directing air up through holes in the printed circuit board and into the device; and

a hinge that couples the device with the air intake vent.

13. (Canceled)

14. (Currently amended) A heat removal system according to claim 10 including openings in a power connector housing, the device directing air flow into a first one of the openings, over through parallel passageways formed between conductors housed in the connector, out a second one of the openings, and out the output vent.

15. (Currently amended) A heat removal system according to claim 14 including fins on the conductors extending out of the housing at least one of the openings.

16. (Original) A heat removal system according to claim 10 including a fan located next to the air exhaust for sucking air out of the output vent.

17. (Currently amended) An air flow control device, comprising:
a unit for containing a circuit board power connector;
an air intake vent for directing air into the unit; and
an air outtake vent for directing air out of the unit; and
conductors arranged to promote air flow through the power connector in parallel
channels.

18. (Currently amended) An air flow control device according to claim ~~18~~ 17
including openings on opposite sides of the power connector.

19. (Currently amended) An air flow control device according to claim 18 including
heat sink fins thermally coupled to the conductors in the power connector and extending out
of at least one of the openings.

20. (Currently amended) An air flow control device according to claim ~~19~~ 17
~~including circuit board vias located inside the unit and coupled to a circuit board power plane~~
conductor connections for inserting into vias electrically coupled to a circuit board power
plane and providing air flow into the unit.

21. (New) A method for removing heat, comprising:
directing an air flow from beneath a circuit board through electrically coupled
mounting holes located in the circuit board; and
circulating the air past electrical contacts inserted in the electrically coupled mounting
holes.

22. (New) A method according to claim 21 including exhausting the air in a direction parallel and offset to the air flow beneath the circuit board.

23. (New) A method according to claim 22 wherein the air is exhausted above the circuit board.

24. (New) A method according to claim 21 including circulating the air through parallel passageways formed between conductors located in a power device with electrical contacts.

25. (New) A connector, comprising:
conductors;
a housing containing the conductors; and
an air flow control device substantially enclosing the housing having an air intake vent on one side for promoting air flow into the housing and across the conductors and further having an exhaust vent on another side for exhausting the air flow in a direction offset and substantially parallel to the air flow directed towards the air intake vent.

26. (New) A connector according to claim 25 including openings on opposite sides of the housing for passing air through a first one of the openings, over the conductors in parallel planar passageways, and out a second one of the openings.

27. (New) A connector according to claim 26 wherein the air intake vent is configured to direct air from underneath a circuit board up through vias electrically connected to the circuit board and into the first one of the openings, and the exhaust vent is configured to exhaust the directed air on a top side of the circuit board out away from the conductors.

28. (New) A connector according to claim 27 including conductor contact points that are inserted in the vias.

29. (New) A connector according to claim 1 including parallel airways formed between the conductors for channeling the air flow.

30. (New) A connector according to claim 29 including mounting pins oriented perpendicular to the conductors for inserting into a circuit board.

31. (New) A connector according to claim 30 wherein the conductors are stacked in increasing size from a bottom conductor nearest the circuit board to a top conductor.

32. (New) The connector according to claim 1 wherein the conductors are arranged as vertically stacked blades spaced apart by horizontal channels extending from the first side of the housing to the second side of the housing, the first and second openings allowing air to pass in through the opening on the first side of the housing, through the horizontal channels over both a top and bottom surface of the vertically stacked conductor blades, and pass out the opening in the second side of the housing.